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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/650.824 08/30/00 MARTTER

R FEC-11704

EXAMINER

MMC1/0817

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VU.0

ART UNIT

PAPER NUMBER

2841

DATE MAILED:

08/17/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/650,824

Applicant(s)

MARTTER ET AL.

Examiner

Quynh-Nhu H. Vu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The Figure 1B is objected to under 37 CFR 1.83(a) because they fail to show "metal eyelet 20" as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).
Correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Apparatus claims 14-15 depend from method claim 1. It is believe that dependent claims 14-15 should depend on claim 11 instead of claim 1. The remainder of the office action will be treated as claims 14-15 depend on claim 11. Correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mancini [US 3,654,583].

Mancini discloses in Figs. 2-3 a connecting an external electrical conductor to electrical circuit device comprising: metal substrate (44) having an aperture (38) formed therein; a hollow mechanical fastener (20, 26, 28) through the aperture; mechanically fastening the fastener to the metal substrate (44) so as to form an eyelet (10, see Fig. 2); the external electrical conductor (60) inserted into the eyelet; a solder (68) applied to the external electrical conductor and the eyelet. Applicant defines the porcelain enameled metal substrate that a metal base with an porcelain enamel covered around the metal base. Mancini discloses a metal substrate without covers porcelain enamel. However, it is well known in the art to use to metal substrate coated with a porcelain-enameled material commonly referred to as porcelain enameled metal substrates as the applicant admitted in the Background of the Invention on page 1 lines 10-15.

As to claim 2, the external electrical conductor (60) is a wire.

As to claims 3 and 7, Mancini discloses all claimed subject matter except that the eyelet is comprised of brass. However, it is well-known in the art to use the eyelet made of brass for cost of saving and more retaining the eyelet in the lead and base substrate. Furthermore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ the eyelet made of brass, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

As to claims 4 and 8, the eyelet is electrically connected to a conductor (46) on a surface of the electrical circuit device.

As to claims 5 and 9, the eyelet is soldered to one surface of the electrical circuit device.

As to claim 6, the external electrical conductor (60) is a lead to an electronic component.

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As to claim 10, the fastener to the metal substrate comprises crimping the fastener to the metal substrate.

As to claim 11, Mancini discloses in Figs. 2-3 a circuit device comprised of a metal substrate (44) having a conductive circuit (46) formed thereon and an external electrical conductor (60) attached thereto comprising a metal base (44) coated with dielectric layer (42, it is noted that it is well-known in the art the dielectric materials such as porcelain enamel as applicant admitted in a specification on page 4, line 12) and an aperture (38) formed in the base, the aperture (38) having mounted thereon a fastener (20, 26, 28), the electrical conductor (60) being soldered to the fastener.

As to claim 12, the external electrical conductor (60) comprises a length of flexible copper wire.

As to claim 13, the fastener is mechanically crimped to the metal substrate (44).

As to claim 14, since an insulating sheath (24) is between the fastener and the metal substrate (44). Therefore, the fastener is electrically insulated from the metal substrate.

As to claim 15, Mancini discloses that the metal substrate (44) made of aluminum. However, Mancini does not disclose that the metal substrate (44) comprises low carbon steel. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ the eyelet made of brass, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

As to claim 16, the fastener is electrically connected to the conductive circuit (46).

As to claim 17, the dielectric (24, 42) or porcelain enamel metal substrate includes two major surfaces, and the conductive circuit (46) is formed on both of the major surfaces.

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As to claim 18, Mancini discloses in Figs. 2-3 that a circuit device comprised of a metal substrate having a conductive circuit (46) formed on each side of the substrate comprising a metal base (44) coated with dielectric layer (42, please see explain in claim 11 above) and an aperture (38) formed in the base (44), the aperture having mounted therein a fastener (20, 26, 28), the fastener electrically connecting the conductive circuits (46) formed on each side of the substrate.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sundberg et al. [US 6,141,496] disclose a porcelain enamel having a base substrate and a porcelain enamel material covers the base substrate.

Oboodi et al. [US 4,997,698], Megens et al. [US 4,982,376], Gollomp et al. [US 5,106,308], Ackerman [US 4,585,295], Kamei et al. [US 5,281,770] and Peter et al. [US 4,170,819] disclose a conductor inserted in a substrate; a solder applied to the conductor and the eyelet.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quynh-Nhu H. Vu whose telephone number is 703-305-0850. The examiner can normally be reached on 7:30-5:00 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703-308-3301. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7722 for After Final communications.

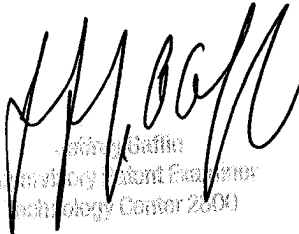
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

QNV
August 9, 2001


Jeffrey Gaffin
Patent Attorney
Technology Center 2000